Florida's fire season of 1998: From flood to drought and back again

Dale Wade (USDA Forest Service, Southern Research Station, 320 Green St., Athens, GA 30602)

Jim Brenner (Fire Control Bureau, Florida Division of Forestry, 3125 Conner Blvd., Tallahassee, FL 323991650)

Steve Miller (Division of Land Management, St. Johns Water Management District, P.O. Box 1429, Palatka, FL 32178-1429)

Walt Thomson (The Nature Conservancy, 222 S. Westmonte Dr., Suite 300, Altamonte Springs, FL 32714-4269)

ABSTRACT: Florida is the thunderstorm capital of the Western Hemisphere. This fact coupled with its warm moist climate promotes a lush growth of extremely volatile understory plants and results in wildfire statistics (both # of fires and acreage) that consistently rank near the top for the contiguous United States. Florida also treats close to 2 million acres with prescription fire in a typical year, more than twice that of its nearest rival. These burns are generally conducted on upland sites which are intertwined with swamps, ponds and hardwood stringers. Fire rarely penetrates these wet areas under conditions prescribed for upland burns which results in an almost impenetrable understory of highly volatile fuels.

The unseasonably warm weather and copious rainfall during the winter of 1997-98 resulted in even more plant growth than usual, but the moist conditions substantially limited the acreage treated with dormant-season prescription fire. As El Nino conditions began to dissipate in March, high-pressure stabilized over the Gulf Coast and record-breaking rainfall changed to record-setting drought. When the Ketch-Byram Drought Index (KBDI) rose above 500, many scheduled burns were postponed because of the increasing probability of root damage to overstory trees. Only about 1.1 million acres were treated with intentional fire through the first 7 months, the time-period when virtually all prescription burns are conducted in Florida. Lightning activity picked up as usual in May but without the usually attendant rains. By the beginning of June, the KBDI was above 650 statewide for the first time since records have been kept, and the swamps were dry. Ten-hour dead fuel moisture and live fuel moisture measurements were the lowest ever-recorded in Florida.

During the ensuing 6 weeks, more than 2,500 fires burned roughly 500,000 acres in Florida ranking it one of the states worst natural disasters. Incredibly no lives were lost although more than 100 homes were destroyed, and another several hundred damaged. Fires burned through wetland sites for the first time in decades leaving few unburned islands to serve as refugia. Roughly, half the acreage burned was in planted pines. This paper describes the fuels, weather, and fire behavior encountered during this time. Details of the suppression force assembled are provided. Fire impacts and preliminary estimates of resource damage are given.

